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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
ROSE, KERRI M	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/035,073	GOODINGS, CHRIS J.	
	Examiner	Art Unit	
	Kerri M. Rose	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,6-11 and 13-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,6-11 and 13-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 8/16/2007 have been fully considered but they are not persuasive. Fischer does disclose the new limitations. In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being ~~anticipated~~ unpatentable by Wang et al. (US 5,694,438) in view of Fischer (US 5,371,734).

4. In regards to claim 11, Wang discloses transmitting, in a frame period, blocks of data that have not been previously transmitted and blocks of data that were transmitted in the previous frame period (Figure 3 discloses several repeat frame structures. Figure 4 discloses a structure in which the first block is new data and the next two blocks are repeated data.). Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

5. Claims 1, 2, 6-10, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,694,438) in view of Haartsen (WO 00/70811; previously cited) in view of Fischer (US 5,371,734).

6. In regards to claims 1 and 10, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

7. In regards to claim 2, Wang discloses transmitting and receiving error detection information in column 3 lines 31-34.

8. In regards to claims 6 and 8, Wang and Haartsen disclose only transmitting/receiving the redundant information when quality is below a threshold (Haartsen pg. 8 lines 12-24).

9. In regards to claims 7 and 9, Wang and Haartsen disclose using maximum bit error rate to define the quality threshold (Haartsen pg. 12 line 28 – pg. 13 line 1).

10. In regards to claim 13, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the

second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose only transmitting the redundant data if the communication link fails to satisfy a criterion.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2. Haartsen disclose only transmitting/receiving the redundant information when quality is below a threshold in pg. 8 lines 12-24.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

11. In regards to claim 14, Wang and Haartsen disclose measuring bit error rate and determining if it exceeds a predetermined level (Haartsen pg. 8 lines 12-24).

12. In regards to claim 15 Wang discloses the system of claim 1, but not using transmitter or receiver battery power level to determine whether to send/receive the redundant data.

Fischer discloses using the battery power remaining to determine whether to keep the transmitter or receiver active in column 28 lines 38-43.

It would have been obvious to one of ordinary skill in the art to use the power saving technique taught by Fischer within the diversity system of Wang and Haartsen because remaining active at all times for sending/receiving redundant data is a drain on battery life, as disclosed by Fischer in column 4 line 56 – column 5 line 3.

Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

13. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (US 5,694,438) in view of Haartsen (WO 00/70811; previously cited) further in view of Pandula (WO 95/34960; previously cited) in view of Fischer (US 5,371,734).

14. In regards to claim 16, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes. Wang discloses error detection and correction in column 3 lines 30-34.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose storing null data if information was received with errors or storing the data if received without errors.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

Pandula discloses detecting errors in page 14 lines 4-25. If the data has an error it is discarded, otherwise it is stored.

It would have been obvious to one of ordinary skill in the art to store or discard received data dependent upon the presence of errors, as taught by Pandula, when determining whether to store the data received by the system of Wang and Haartsen because doing so allows only uncorrupted data to be received, as taught by Pandula in page 7 lines 7-16.

Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

15. In regards to claim 17, Wang discloses a transmitter in figure 1 and a receiver in figure 2. Figures 3 and 4 depict the possible frame structures. For example in the one-repeat diagram 204 of figure 3, the frame is evenly divided into two subframes. The first is for new data and the second is for data previously transmitted in a previous frame. Figure 4 illustrates the repeating pattern between frames for a frame divided into three subframes. Wang discloses error detection and correction in column 3 lines 30-34.

Wang does not disclose frequency hopping wherein the previously transmitted data was previously transmitted at a different frequency. Wang also does not disclose storing null data if information was received with errors or storing the data if received without errors. Wang does not disclose depowering the receiver circuit.

Haartsen discloses frequency hopping and using a different frequency to transmit each frame in page 5 line 24 – page 6 line 2.

It would have been obvious to one of ordinary skill in the art to use frequency hopping, as taught by Haartsen, in addition to the time diversity taught by Wang, because diversity improves reception and helps to remedy quality problems, as taught by Haartsen in page 6 lines 16-22.

Pandula discloses detecting errors in page 14 lines 4-25. If the data has an error it is discarded, otherwise it is stored.

It would have been obvious to one of ordinary skill in the art to store or discard received data dependent upon the presence of errors, as taught by Pandula, when determining whether to store the data received by the system of Wang and Haartsen because doing so allows only uncorrupted data to be received, as taught by Pandula in page 7 lines 7-16.

Wang does not disclose transmitting the redundant block only if battery power exceeds a threshold but receiving a redundant frame regardless of remaining batter power.

In column 28 lines 38-43, Fischer discloses powering down redundant transmissions in response to characteristics such as remaining power. Column 28 lines 43-48 disclose that the reception of redundant frames must continue however regardless of the remaining power level.

It would have been obvious to one of ordinary skill in the art to power down transmission circuits but maintain reception, as taught by Fischer, in the system taught by Wang because doing so preserves battery power while ensuring accurate reception, as taught by Fischer in column 4 line 56 – column 5 line 3.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri M. Rose whose telephone number is (571) 272-0542. The examiner can normally be reached on Monday through Thursday, 7:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris H. To can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

kmr

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